

ABSTRACT OF THE DISCLOSURE

Structures of direct current motors or ac commutator

5 (Universal) motors which use a concentrated winding on
the rotor with coils wound around the teeth. The number
of commutator segments is higher than the number of rotor
teeth. Several coils are wound around the same tooth.
The terminals of the coils are connected to different
10 segments of the commutator. The parallel paths of the
armature winding are perfectly balanced. An equal
current distribution through the parallel circuits of the
armature is maintained and there is no circulation
current between these parallel circuits. The problems
15 related to commutation are reduced because the value of
the coil inductances is low. The copper volume of the
end-windings, the Joule losses and the axial length of
the motor armature are lower than a lap or a wave winding
with interlocked coils. Two kinds of structures with a
20 concentrated winding are presented : some with rotor
teeth with identical dimensions and some with rotor teeth
with different dimensions.